

Claims

WHAT IS CLAIMED IS:

1. A socket assembly for a meter box, said socket assembly comprising:

a plurality of power line connectors for connection to electric power lines of an electric power line system, said  
5 electric power line system including at least a first power supply line and at least a first power load line;

said power line connectors being adapted to mate with mating connectors of an electric meter to establish a first current path from the first power supply line to the first  
10 power load line through the electric meter; and

a meter bypass system for establishing a second current path from the first power supply line to the first power load line bypassing the electric meter to permit removal of the  
15 meter without interruption of electric service, said bypass system comprising at least one slide connector comprising a metal conductor mounted for back and forth sliding movement of the conductor along a line of action extending between first and second power line connectors of said plurality of power  
20 line connectors;

each of said first and second power line connectors comprising:

a jaw;

25           a jaw support comprising a base, a jaw mount  
extending up from the base having opposing spaced apart  
flanges with lower ends connected to the base, said  
opposing flanges mounting said jaw therebetween for  
pivotal movement between open and closed positions, a web  
30           spanning and integrally connecting at least a portion of  
said first and second flanges and integrally connecting  
the jaw mount to the base, and a contact arm extending up  
from the base having an inner contact surface generally  
opposing the web of the jaw mount;

35           said base, jaw mount and contact arm being  
formed as a one-piece structure to provide a joint-  
free path for flow of electrical current;

            a first socket formed between said jaw and said  
40           jaw mount for receiving a respective electrical  
connector of said electric meter; and

            a second socket formed between said jaw and said  
contact arm for electrical connection with said conductor  
45           on the slide connector;

            said slide connector being slidable between a meter  
operating position in which said metal conductor is out of  
electrical contact with at least one of the second sockets of  
said first and second power line connectors whereby current is  
50           adapted to flow along said first current path through said  
electric meter when the electrical connectors of the electric  
meter are in said first sockets of the first and second power  
line connectors, and a meter bypassing position in which said  
metal conductor of the slide connector is in electrical  
55           contact with the second sockets of both of the first and

second power line connectors whereby current is adapted to flow along a second current path from the power supply line to the power load line when the electrical connectors of said electric meter are removed from said first sockets of the  
60 first and second power line connectors.

2. A socket assembly as set forth in claim 1 wherein said jaw support is formed as a single sheet of bent metal.

3. A socket assembly as set forth in claim 2 wherein at least one of said first and second flanges has a lower end tab secured in an opening in said base.

4. A socket assembly as set forth in claim 2 wherein both of said first and second flanges of the jaw mount have lower end tabs secured in openings in said base.

5. A socket assembly as set forth in claim 2 wherein said lower end tab has a stake connection with said base.

6. A socket assembly as set forth in claim 2 wherein said web of the jaw mount has a generally C-shaped lower region.

7. A socket assembly as set forth in claim 6 wherein a tab extends down from at least one of said first and second flanges of the jaw mount, said tab being secured in an opening in the jaw support base.

8. A socket assembly as set forth in claim 6 wherein lower portions of said first and second flanges are spaced away from said C-shaped lower region of the web.

9. A socket assembly as set forth in claim 8 wherein said first and second flanges have upper portions and lower portions narrower than said upper portions.

10. A socket assembly as set forth in claim 1 wherein said base has a generally planar first end region disposed below the jaw mount, a second end region adapted for connection to said power load line or to said power supply  
5 line, and a middle region connecting the first and second end regions.

11. A socket assembly as set forth in claim 10 wherein said first and second end regions and said middle region are flat and generally co-planar.

12. A socket assembly as set forth in claim 10 wherein said middle region is narrower than said first and second end regions.

13. A socket assembly as set forth in claim 1 wherein said one-piece structure is a cast metal structure.

14. A socket assembly as set forth in claim 13 wherein the cast metal structure further comprises fillets at the junctions of the web and the flanges, said fillets tapering from a relatively smaller size away from the base to a  
5 relatively larger size adjacent the base.

15. A power line connector for use in a socket assembly in a meter box, said power line connector comprising:

a jaw;

a jaw support comprising a base, a jaw mount extending up  
5 from the base having opposing spaced apart flanges with lower

ends connected to the base, said opposing flanges mounting said jaw therebetween for pivotal movement between open and closed positions, a web spanning and integrally connecting at least a portion of said first and second flanges and  
10 integrally connecting the jaw mount to the base, and a contact arm extending upward from the base having an inner contact surface generally opposing the web of the jaw mount;

said base, jaw mount and contact arm being formed as a one-piece metal structure to provide a joint-free path for  
15 flow of electrical current;

a first socket formed between said jaw and said jaw mount for receiving a mating electrical connector of an electric meter; and

a second socket formed between said jaw and said contact  
20 arm for receiving a slide connector of a bypass system mounted in said meter box for back and forth sliding movement along a line of action generally parallel to the base of the jaw support.

16. A power line connector as set forth in claim 16 wherein said jaw support is formed as a single sheet of bent metal.

17. A power line connector as set forth in claim 16 wherein at least one of said first and second flanges of the jaw mount has a lower end tab secured in an opening in the base.

18. A power line connector as set forth in claim 16 wherein both of said first and second flanges of the jaw mount have lower end tabs secured in openings in the base.

19. A power line connector as set forth in claim 17 wherein said lower end tab has a stake connection with the base.

20. A power line connector as set forth in claim 16 wherein said web of the jaw mount has a generally C-shaped lower region.

21. A power line connector as set forth in claim 20 wherein a tab extends down from at least one of said first and second flanges of the jaw mount, said tab being secured in an opening in the jaw support base.

22. A power line connector as set forth in claim 20 wherein lower portions of said first and second flanges are spaced apart from said C-shaped lower region of the web.

23. A power line connector as set forth in claim 20 wherein said first and second flanges have upper portions and lower portions narrower than said upper portions.

24. A power line connector as set forth in claim 16 wherein said base has a generally planar first end region disposed below the jaw mount, a second end region adapted for connection to an electric power line, and a middle region  
5 connecting the first and second end regions.

25. A power line connector as set forth in claim 24 wherein said first and second end regions and said middle region are flat and generally co-planar.

26. A power line connector as set forth in claim 24 wherein said middle region is narrower than said first and second end regions.

27. A power line connector as set forth in claim 15 wherein said one-piece structure is a cast metal structure.

28. A power line connector as set forth in claim 27 wherein the cast metal structure further comprises fillets at the junctions of the web and the flanges, said fillets tapering from a relatively smaller size away from the base to  
5 a relatively larger size adjacent the base.